

# PUBLIC HEALTH FACT SHEET

## Tularemia

Massachusetts Department of Public Health, 305 South Street, Jamaica Plain, MA 02130

### What is tularemia?

Tularemia is a rare bacterial disease that occurs in both animals and humans. It is caused by the bacterium (germ) *Francisella tularensis* and can be spread to people in a number of ways.

### How common is tularemia in Massachusetts?

Tularemia has been rare in Massachusetts. An average of two cases a year were reported between 1990 and 1999. Between 2000 and 2001, 21 cases of tularemia were reported to the Massachusetts Department of Public Health, with 19 of those cases associated with an outbreak on Martha's Vineyard.

### How is tularemia spread?

Tularemia can be spread to people in different ways. Humans may become infected through a bite of an infected tick. In Massachusetts, the common dog tick is most responsible for transmitting tularemia. Humans can also become infected after touching, handling, or eating an infected animal. Animals most likely to be infected include rabbits and rodents such as voles, squirrels, muskrats, and beavers. Less common means of spread include contact with water or soil that has been contaminated by an infected animal, being bitten by an infected animal, or inhaling contaminated particles. Tularemia is not spread directly from person to person.

### Can tularemia be used for bioterrorism?

Yes. Bioterrorism is the use of any biological organism to hurt people or create fear. The Centers for Disease Control and Prevention lists tularemia as a possible bioterrorist agent; however it has never been successfully used in this manner.

### What are the symptoms of tularemia?

Symptoms of tularemia will vary depending on how the germs are transmitted. The most common symptoms include a slow-healing skin sore (ulcer) and swollen glands (lymph nodes). Less frequently, a person will feel ill very suddenly, with a high fever, chills, headache, and fatigue. Rarely, people will experience cough, sore joints, chest discomfort, vomiting, sore throat, eye inflammation (conjunctivitis), abdominal pain and diarrhea.

### How soon do symptoms appear?

Symptoms generally appear between three and five days after an exposure, although it can take as long as 21 days.

### Is there treatment for tularemia?

Tularemia can be diagnosed by your doctor through a blood test and can be effectively treated with certain antibiotics.

### What can you do to protect yourself?

There is no vaccine for tularemia. The best way to protect yourself is to avoid tick-infested areas and contact with potentially infected animals. You may reduce your risk of tularemia by taking the following precautionary measures:

- Avoid areas where ticks are likely to be found. The type of tick most likely to carry the tularemia germ is the common dog tick. Ticks cling to vegetation and are most numerous in brushy, wooded or grassy habitats. They are not found on open sandy beaches, but may be found in grassy dune areas.

In areas where contact with ticks cannot be avoided, individuals should take the following precautions:

- Wear long, light-colored pants tucked into socks or boots, and a long-sleeved shirt.
- Stay on trails when walking or hiking, and try to avoid areas with tall grass.
- Use insect repellents appropriately. Repellents that contain DEET (N-N-diethyl-meta-toluamide) should be used in concentrations no higher than 10-15% for children and 30-35% for adults. Repellents should never be used on infants. Repellents that contain permethrin can only be applied to clothing, not to exposed skin.
- Talk to your veterinarian about appropriate tick control measures (tick collars, repellents) to protect your pets from ticks, and to prevent your pet from bringing ticks into your home.
- After spending time in tick-infested areas, individuals should check themselves, their children and any pets for ticks. Adult dog ticks are about the size of a small watermelon seed. Parts of the body that ticks prefer include the back of the knees, armpits, scalp, groin, and back of the neck.
- Promptly remove any attached tick using fine-point tweezers. The tick should not be squeezed or twisted, but grasped close to the skin and pulled straight out with steady pressure. Once removed, the tick should be drowned in rubbing alcohol or in the toilet.
- Avoid any direct contact with wild animals (especially rabbits and rodents), their droppings or carcasses. If you notice a sick or injured wild animal, call your local animal control officer.
- Do not allow your pets to roam outdoors unsupervised. If your pets do go outside unsupervised, they should be in a secured yard or kennel to minimize contact with wild animals.
- Minimize rodent and rabbit populations near your home by keeping woodpiles off the ground and in sunny areas, by fencing off any garden areas, by never leaving pet food outside after your pet has eaten, and by securing all garbage in rodent-proof containers.
- Use gloves, an appropriate respirator, and eye protection (e.g., goggles) when skinning or dressing wild animals. Any wild game should be cooked thoroughly before eating it and, as with other raw meats, steps should be taken to avoid cross-contamination (i.e., hands, utensils and surfaces should all be thoroughly washed after handling any raw meats or meat products, and the juices from raw meats should not come into contact with any cooked or ready-to-eat foods.)
- In addition to a variety of wild animals, domestic cats are susceptible to tularemia infection and are able to transmit this infection to people. If your cat shows any signs of illness, such as fever, loss of appetite, or listlessness, you should have it checked by your veterinarian.
- Avoid drinking water that may have been contaminated by wild animals, especially rabbits or rodents. If you receive your drinking water from a well, be sure it is protected from potential contamination by wild animals.

## **Where can I get more information?**

- Your doctor, nurse, or clinic
- Your local board of health (listed in the telephone directory under “government”)
- Massachusetts Department of Public Health, Division of Epidemiology and Immunization (MDPH) at (617) 983-6800 or toll free at (888) 658-2850 or on the MDPH website at <http://www.mass.gov/dph>
- Massachusetts Poison Control Center (concerning adverse reactions to insect repellants) at (617) 232-2120 in Boston, 1-800-682-9211 for other areas in Massachusetts, or 1-888-244-5313 for the hearing impaired